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## **Materials Science, Computer and Information Technology**

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### **Part 5**

**Edited by**  
**S.Z. Cai, Q.F. Zhang, X.P. Xu, D.H. Hu and Y.M. Qu**



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# **Materials Science, Computer and Information Technology**

## **PART 5**

Selected, peer reviewed papers from the  
2014 4<sup>th</sup> International Conference on  
Materials Science and Information Technology  
(MSIT 2014),  
June 14-15, 2014, Tianjin, China



*Edited by*

**S.Z. Cai, Q.F. Zhang, X.P. Xu, D.H. Hu and Y.M. Qu**



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## Preface

It is our pleasure to welcome you to the 2014 4th International Conference on Materials Science and Information Technology (MSIT 2014) in Tianjin, China. MSIT 2014 is the first conference dedicated to issues related to Materials Science , Mechatronics, Manufacturing Technology, Control, Measurement and Monitoring, Information Technology, Computer Engineering and Applied Computing Methods, Energy and Environmental Engineering. A major goal and feature of it is to bring academic scientists, engineers, industrial researchers together to exchange and share their experiences and research results about most aspects of Materials Science , Mechatronics, Manufacturing Technology, Control, Measurement and Monitoring, Information Technology, Computer Engineering and Applied Computing Methods, Energy and Environmental Engineering, and discuss the practical challenges encountered and the solutions adopted.

We hope you will have a technically rewarding experience, and use this occasion to meet old friends and make many new ones. Don't miss the opportunity to explore in Tianjin, China. And don't forget to take a sample of the many and diverse attractions in the rest of the China.

MSIT 2014 promises to be both stimulating and informative with a wonderful array of keynote and invited speakers from all over the world. Delegates will have a wide range of sessions to choose from and will have a difficult decision in deciding which sessions to attend.

The program consists of invited sessions, and technical workshops and discussions with eminent speakers covering a wide range of topics in Materials Science , Mechatronics, Manufacturing Technology, Control, Measurement and Monitoring, Information Technology , Computer Engineering and Applied Computing Methods, Energy and Environmental Engineering. This rich program provides all attendees with the opportunities to meet and interact with one another. We hope your experience with MSIT 2014 is a fruitful and long lasting one. With your support and participation, the conference will continue its success for a long time.

We would like to thank the organization staff, the members of the program committees and reviewers. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra helps in the review process, and the authors for contributing their research result to the conference. Special thanks go to TTP Publisher.

We wish all attendees of MSIT 2014 an enjoyable scientific gathering in Tianjin, China. We look forward to seeing all of you next year at the conference.

### **Program Committee Chair**

Dr. S. Z. Cai



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